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10/812,607	03/30/2004	Michael Roeder	200313511-1	3195

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EXAMINER	
WRIGHT, BRYAN F	
ART UNIT	PAPER NUMBER
2431	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/812,607	ROEDER ET AL.	
	Examiner	Art Unit	
	BRYAN WRIGHT	2431	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-58* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

FINAL ACTION

1. Amendment A has been entered.

2. Claims 1, 9, 21, 25, 33, 45, 49, and 50 are amended. Claims 51-58 are new. Claim 1-58 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-10, 12, 16-19, 25-30, 32, 33, 36, 40-43, and 50-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krohn (US Patent Publication No.

2004/0236965) in view of Balfanz et al. (US Patent No. 7,392,387 and Balfanz hereinafter).

4. As to claim 1, Krohn teaches a method of secure information distribution between nodes, the method comprising:

Performing, by a first node a handshake (i.e., "hello message) process with an adjacent node (i.e., intermediate node) to determine (i.e., authorization) membership in a secure group (i.e., Krohn teaches sending a handshake message to a intermediate node (e.g. Identity provide) [Steps 1-8, fig.7] ;

and distributing secure information from the first node (i.e., SSL version number, identifier) to the adjacent node (i.e., identity provider), if the adjacent node is proven to be a member of the secure group (i.e., Krohn teaches a the "hello message" handshake includes a SSL version and unique device identifier [par. 128, lines 4-10]).

Krohn does not teach:

wherein the handshake process comprises requiring each of the first node and the adjacent node to prove a key value that is associated with the secure group;

wherein each of the first node and the adjacent node has an identifier value that is associated with the secure group in order for the first node and the adjacent node to have membership in the secure group;

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Krohn as introduced by Balfanz . Balfanz discloses:

wherein the handshake process comprises requiring each of the first node and the adjacent node to prove a key value that is associated with the secure group (for purposes of a proving a key value in a handshake process Balfanz provides for the securing device and the potential member undertake a key exchange protocol of their choice to authenticate each other by ensuring that the public keys they use match the commitments made over the location-limited channel [col. 8, lines 34-43]);

wherein each of the first node and the adjacent node has an identifier value that is associated with the secure group in order for the first node and the adjacent node to have membership in the secure group (for the purpose of associated identifier value Balfanz provides for the securing device sends to the new member the new member certificate, the group root certificate, and any necessary supporting information about the group such that the new member can now establish communication with other group members [col. 8, lines 50-67].

Therefore, given the teachings of Balfanz, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Krohn by employing the well known features of handshaking disclosed above by Balfanz , for which providing group membership to neighboring devices will be enhanced [col. 8, lines 50-67].

5. As to claim 2, Krohn teaches a method further comprising: prior to providing the secure information (i.e., first node client certificate) to the adjacent node, performing the handshake process with another adjacent node (e.g., second node) (i.e., Krohn teaches a performing a handshake with a second node. Krohn teaches sending a first node client certificate after the handshake has been confirmed with second node [par. 38 through par. 48]).

6. As to claim 3, Krohn teaches a method further comprising: Establishing (i.e., creation) an encryption key with the adjacent node (i.e., Krohn teaches he handshake allows the server to authenticate itself to the client using public key techniques, then allows the client and server to cooperate in the creation of symmetric keys used for rapid encryption, decryption and tamper detection during the session that follows [par. 105, lines 2-5]).

7. As to claim 4, Krohn teaches a method where the encryption key comprises a public key (i.e., Krohn teaches in order to establish a secure link between the two devices a protocol known as the secure socket layer (SSL) protocol is used [par. 102, lines 1-4]. Krohn teaches the SSL protocol uses a combination of public key and symmetric key encryption [par. 104, lines 1-2]).

8. As to claim 5, Krohn teaches a method where the encryption key comprises a symmetric key (i.e., Krohn teaches in order to establish a secure link between the two

devices a protocol known as the secure socket layer (SSL) protocol is used [par. 102, lines 1-4]. Krohn teaches the SSL protocol uses a combination of public key and symmetric key encryption [par. 104, lines 1-2]).

9. As to claim 6, Krohn teaches a method where the secure information is distributed along with an encryption key (i.e., Krohn teaches the creation of a pre-master secret key for the security association, encrypts the pre-master secret with the server device public key and sends the encrypted pre-master secret key to the server [par. 141, lines 7-13]).

10. As to claim 7, Krohn teaches a method where the action of performing the handshaking process comprises: using a one way function f(x) (i.e., hash function) to determine if the adjacent node is a member of the secure group (i.e., Krohn teaches a message digest can be formed by a cryptographic algorithm, a "hash function" from the message content and a secret key known to both the server and identity provider [par. 158, lines 1-3]).

11. As to claim 8, Krohn teaches a method where the one way function f(x) is a secure hash function (i.e., Krohn teaches a message digest can be formed by a cryptographic algorithm, a "hash function" from the message content and a secret key known to both the server and identity provider [par. 158, lines 1-3]).

12. As to claim 9, Krohn teaches a method where the action of performing the handshaking process comprises: providing, by a first node (i.e. identity provider), a component value A1 (i.e., message content from identity provider) for a one way function f(x) (e.g., Hash Function) [par. 158, lines 1-4]; providing, by the adjacent node (i.e., second node), a component value B1 (i.e., message content from second node) as a challenge to the first node (i.e., Krohn teaches a message content [par. 158, lines 1-4]; and applying the component values A1 and BI (i.e., message content), and a key value SGK (i.e., secret key) to the one way function f(x) (e.g. hash) to generate a value y (i.e. message digest) (i.e. Krohn teaches using a hash function generate a message digest [par. 158, lines 1-4]).

13. As to claim 10, Krohn teaches a method where the one way function f(x) is a secure hash function (i.e., Krohn teaches a message digest can be formed by a cryptographic algorithm, a "hash function" from the message content and a secret key known to both the server and identity provider [par. 158, lines 1-3]).

14. As to claim 12, Krohn teaches a method where the secure information comprises a key for secure communication (i.e., Krohn teaches security information comprises at least one of a security certificate, at least one security key, at least one public key and at least one private key [claim 50, lines 1-5]).

15. As to claim 16, Krohn teaches a method further comprising: determining an age (i.e., inspecting) of the secure information (e.g., X.509) so that each node in the secure group will store a latest version (e.g., X.509 version number) of the secure information (i.e., Krohn teaches the presenting a X.509 certificate to a node [par. 17, lines 1-3; par. 19, line1]. The X.509 certificate inherently contains a version number for which can be checked. Krohn further teaches a intermediate node may inspect information sent [par.20, lines 1-2]).

16. As to claim 17, Krohn teaches a method where the action of determining the age of the secure information comprises: checking (i.e., inspect) a sequence number (e.g., X.509 sequence number) of the secure information (e.g., X.509) to determine the age of the secure information (i.e., Krohn teaches the presenting a X.509 certificate to a node [par. 17, lines 1-3; par. 19, line1]. The X.509 certificate inherently contains a sequence number for which can be checked. Krohn further teaches a intermediate node may inspect information sent [par.20, lines 1-2]).

17. As to claim 18, Krohn teaches a method where the action of determining the age of the secure information comprises: checking (i.e., inspect) a date of modification (i.e., validity) of the secure information (i.e., X.509) to determine the age of the secure information (i.e., Krohn teaches the presenting a X.509 certificate to a node [par. 17, lines 1-3; par. 19, line1]. The X.509 certificate inherently contains a validity field for

which validity can be check. Krohn further teaches a intermediate node may inspect information sent [par.20, lines 1-2]).

18. As to claim 19, Krohn teaches a method where the action of determining the age of the secure information comprises: checking (i.e., inspect) an elapsed time (i.e., validity) since a previous modification of the secure information (i.e., X.509) to determine the age of the secure information (i.e., Krohn teaches the presenting a X.509 certificate to a node [par. 17, lines 1-3; par. 19, line1]. The X.509 certificate inherently contains a validity field for which validity can be check. Krohn further teaches a intermediate node may inspect information sent [par.20, lines 1-2]).

19. As to claim 25, Krohn teaches a apparatus for secure information distribution between nodes, the apparatus comprising: a node configured to performing a handshake process (i.e., "hello message) with an adjacent node (i.e., intermediate node/identity provider) to determine membership (i.e., authorization) in a secure group, and distribute secure information (i.e., SSL version number, identifier) to the adjacent node (i.e., identity provider), if the adjacent node is proven to be a member of the secure group (i.e., Krohn teaches sending a handshake message to a intermediate node (e.g. Identity provide) [Steps 1-8, fig.7]. Krohn teaches a the "hello message" handshake includes a SSL version and unique device identifier [par. 128, lines 4- 10])

Krohn does not teach:

wherein the handshake process comprises requiring each of the first node and the adjacent node to prove a key value that is associated with the secure group;

wherein each of the first node and the adjacent node has an identifier value that is associated with the secure group in order for the first node and the adjacent node to have membership in the secure group;

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Krohn as introduced by Balfanz. Balfanz discloses:

wherein the handshake process comprises requiring each of the first node and the adjacent node to prove a key value that is associated with the secure group (for purposes of a proving a key value in a handshake process Balfanz provides for the securing device and the potential member undertake a key exchange protocol of their choice to authenticate each other by ensuring that the public keys they use match the commitments made over the location-limited channel [col. 8, lines 34-43]);

wherein each of the first node and the adjacent node has an identifier value that is associated with the secure group in order for the first node and the adjacent node to have membership in the secure group (for the purpose of associated identifier value Balfanz provides for the securing device sends to the new member the new member certificate, the group root certificate, and any necessary supporting information about

the group such that the new member can now establish communication with other group members [col. 8, lines 50-67].

Therefore, given the teachings of Balfanz , a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Krohn by employing the well known features of handshaking disclosed above by Balfanz , for which providing group membership to neighboring devices will be enhanced [col. 8, lines 50-67].

20. As to claim 26, Krohn teaches a apparatus (i.e., intermediate node) where the node performs the handshake process with another adjacent node, prior to providing the secure information (i.e., first node client certificate) to the adjacent node (e.g., second node) (i.e., Krohn teaches a performing a handshake with a second node. Krohn teaches sending a first node client certificate after the handshake has been confirmed with second node [par. 38 through par. 48]).

21. As to claim 27, Krohn teaches a apparatus where the node is configured to establish (i.e., creation) an encryption key with the adjacent node (i.e., Krohn teaches he handshake allows the server to authenticate itself to the client using public key techniques, then allows the client and server to cooperate in the creation of symmetric keys used for rapid encryption, decryption and tamper detection during the session that follows [par. 105, lines 2-5]).

22. As to claim 28, Krohn teaches a apparatus where the encryption key comprises a public key (i.e., Krohn teaches in order to establish a secure link between the two devices a protocol known as the secure socket layer (SSL) protocol is used [par. 102, lines 1-4]. Krohn teaches the SSL protocol uses a combination of public key and symmetric key encryption [par. 104, lines 1-2]).

23. As to claim 29, Krohn teaches a apparatus where the encryption key comprises a symmetric key (i.e., Krohn teaches in order to establish a secure link between the two devices a protocol known as the secure socket layer (SSL) protocol is used [par. 102, lines 1-4]. Krohn teaches the SSL protocol uses a combination of public key and symmetric key encryption [par. 104, lines 1-2]).

24. As to claim 30, Krohn teaches a apparatus where the secure information is distributed along with an encryption key (i.e., Krohn teaches the creation of a pre-master secret key for the security association, encrypts the pre-master secret with the server device public key and sends the encrypted pre- master secret key to the server [par. 141, lines 7-13]). 24. As to claim 31, Krohn teaches a apparatus where the node is configured to use a one way function f(x) (e.g., hash function) to determine if the adjacent node is a member of the secure group (i.e., Krohn teaches a message digest can be formed by a cryptographic algorithm, a "hash function" from the message

content and a secret key known to both the server and identity provider [par. 158, lines 1-3]).

25. As to claim 32, Krohn teaches a apparatus where the one way function f(x) is a secure hash function (i.e., Krohn teaches a message digest can be formed by a cryptographic algorithm, a "hash function" from the message content and a secret key known to both the server and identity provider [par. 158, lines 1- 3]).

26. As to claim 33, Krohn teaches a apparatus where the node is configured to provide a component value A1 (i.e., message content from identity provider) for a one way function f(x) (e.g., Hash Function) [par. 158, lines 1-4], and where the adjacent node (i.e., second node) is configured to provide a component value B1 (i.e., message content from second node) as a challenge to the first node (i.e., Krohn teaches a message content [par. 158, lines 1-4], and where the node and adjacent node are configured to apply the component values A1 and BI (i.e., message content), and a key value SGK to the one way function f(x) to generate a value y (i.e., secret key) to the one way function f(x) (e.g. hash) to generate a value y (i.e. message digest) (i.e. Krohn teaches using a hash function generate a message digest (e.g., y) [par. 158, lines 1-4]).

27. As to claim 34, Krohn teaches a apparatus where the one way function f(x) is a secure hash function (i.e., Krohn teaches a message digest can be formed by a

cryptographic algorithm, a "hash function" from the message content and a secret key known to both the server and identity provider [par. 158, lines 1- 3]).

28. As to claim 36, Krohn teaches a apparatus where the secure information comprises a key for secure communication (i.e., Krohn teaches security information comprises at least one of a security certificate, at least one security key, at least one public key and at least one private key [claim 50, lines 1-5]).

29. As to claim 40, Krohn teaches a apparatus where the node is configured to determine (i.e.inspect) an age of the secure information (i.e., X.509 certificate) so that each node in the secure group will store a latest version of the secure information (i.e., Krohn teaches the presenting a X.509 certificate to a node [par. 17, lines 1-3; par. 19, line1]. The X.509 certificate inherently contains a version number for which can be checked. Krohn further teaches a intermediate node may inspect information sent [par.20, lines 1-2]).

30. As to claim 41, Krohn teaches a apparatus where the node is configured to check determine (i.e., inspect) a sequence number of the secure information (i.e., X.509 certificate) to determine the age of the secure information (i.e., Krohn teaches the presenting a X.509 certificate to a node [par. 17, lines 1-3; par. 19, line1]. The X.509 certificate inherently contains a sequence number for which can be checked. Krohn further teaches a intermediate node may inspect information sent [par.20, lines 1-2]).

31. As to claim 42, Krohn teaches a apparatus where the node is configured to check (i.e., inspect) a date (i.e., validity) of modification of the secure information (i.e., X.509 certificate) to determine the age of the secure information (i.e., Krohn teaches the presenting a X.509 certificate to a node [par. 17, lines 1-3; par. 19, line1]. The X.509 certificate inherently contains a validity field for which validity can be check. Krohn further teaches a intermediate node may inspect information sent [par.20, lines 1-2]).

32. As to claim 43, Krohn teaches a apparatus where the node is configured to check (i.e., inspect) an elapsed time (i.e., validity) since a previous modification of the secure information (i.e., X.509 certificate) to determine the age of the secure information (i.e., Krohn teaches the presenting a X.509 certificate to a node [par. 17, lines 1-3; par. 19, line1]. The X.509 certificate inherently contains a validity field for which validity can be check. Krohn further teaches a intermediate node may inspect information sent [par.20, lines 1-2]).

33. As to claim 49, Krohn teaches a apparatus for secure information distribution between nodes, the apparatus comprising:

means performing a handshake process (i.e., "hello message) between a first node and an adjacent node (i.e., intermediate node/identity provider) to determine membership (i.e., authorization) in a secure group (i.e., Krohn teaches sending a handshake message to a intermediate node (e.g. Identity provide) [Steps 1-8, fig .7]);

means for distributing secure information (i.e., SSL version number, identifier) to the adjacent node (i.e., identity provider), if the adjacent node is a member of the secure group (i.e., Krohn teaches a the "hello message" handshake includes a SSL version and unique device identifier [par. 128, lines 4- 10])

Krohn does not teach:

wherein the handshake process comprises requiring each of the first node and the adjacent node to prove a key value that is associated with the secure group;

wherein each of the first node and the adjacent node has an identifier value that is associated with the secure group in order for the first node and the adjacent node to have membership in the secure group;

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Krohn as introduced by Balfanz. Balfanz discloses:

wherein the handshake process comprises requiring each of the first node and the adjacent node to prove a key value that is associated with the secure group (for purposes of a proving a key value in a handshake process Balfanz provides for the securing device and the potential member undertake a key exchange protocol of their choice to authenticate each other by ensuring that the public keys they use match the commitments made over the location-limited channel [col. 8, lines 34-43]);

wherein each of the first node and the adjacent node has an identifier value that is associated with the secure group in order for the first node and the adjacent node to have membership in the secure group (for the purpose of associated identifier value Balfanz provides for the securing device sends to the new member the new member certificate, the group root certificate, and any necessary supporting information about the group such that the new member can now establish communication with other group members [col. 8, lines 50-67].

Therefore, given the teachings of Balfanz, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Krohn by employing the well known features of handshaking disclosed above by Balfanz, for which providing group membership to neighboring devices will be enhanced [col. 8, lines 50-67].

34. As to claim 50, Krohn teaches a article of manufacture, comprising: a machine-readable medium having stored thereon instructions to:

perform a handshake process (i.e., "hello message) between a first node and an adjacent node (i.e., intermediate node/identity provider) to determine membership (i.e., authorization) in a secure group (i.e., Krohn teaches sending a handshake message to a intermediate node (e.g. Identity provide) [Steps 1-8, fig.7]);

distribute secure information (i.e., SSL version number, identifier) from the first node to the adjacent node (i.e., identity provider), if the adjacent node is proven to be a

member of the secure group (i.e., Krohn teaches a the "hello message" handshake includes a SSL version and unique device identifier [par. 128, lines 4-10]).

Krohn does not teach:

wherein the handshake process comprises requiring each of the first node and the adjacent node to prove a key value that is associated with the secure group;

wherein each of the first node and the adjacent node has an identifier value that is associated with the secure group in order for the first node and the adjacent node to have membership in the secure group;

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Krohn as introduced by Balfanz. Balfanz discloses:

wherein the handshake process comprises requiring each of the first node and the adjacent node to prove a key value that is associated with the secure group (for purposes of a proving a key value in a handshake process Balfanz provides for the securing device and the potential member undertake a key exchange protocol of their choice to authenticate each other by ensuring that the public keys they use match the commitments made over the location-limited channel [col. 8, lines 34-43]);

wherein each of the first node and the adjacent node has an identifier value that is associated with the secure group in order for the first node and the adjacent node to

have membership in the secure group (for the purpose of associated identifier value Balfanz provides for the securing device sends to the new member the new member certificate, the group root certificate, and any necessary supporting information about the group such that the new member can now establish communication with other group members [col. 8, lines 50-67].

Therefore, given the teachings of Balfanz, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Krohn by employing the well known features of handshaking disclosed above by Balfanz , for which providing group membership to neighboring devices will be enhanced [col. 8, lines 50-67].

35. As to claim 51, Krohn teachers a method where the handshake process further comprises: applying a one way function to the key value so that the one way function generates a calculated value y, and transmitting the calculated value y between the first node and the adjacent node (i.e., ... teaches a hashing function of a message digest and secret key [par. 158]. Examiner cites well known in the is the computing of a hash value and transmitting the value between communicating entities for purpose of authentication).

36. As to claim 53, Krohn teaches a apparatus where the handshake process further comprises: applying a one way function to the key value so that the one way function

generates a calculated value y, and transmitting the calculated value y between the node and the adjacent node (i.e., ... teaches a hashing function of a message digest and secret key [par. 158]. Examiner cites well known in the is the computing of a hash value and transmitting the value between communicating entities for purpose of authentication).

37. As to claim 55, Krohn teaches a apparatus where the handshake process further comprises: applying a one way function to the key value so that the one way function generates a calculated value y, and transmitting the calculated value y between the first node and the adjacent node (i.e., ... teaches a hashing function of a message digest and secret key [par. 158]. Examiner cites well known in the is the computing of a hash value and transmitting the value between communicating entities for purpose of authentication).

38. As to claim 57, Krohn teaches a article of manufacture where the handshake process further comprises: applying a one way function to the key value so that the one way function generates a calculated value y, and transmitting the calculated value y between the first node and the adjacent node (i.e., ... teaches a hashing function of a message digest and secret key [par. 158]. Examiner cites well known in the is the computing of a hash value and transmitting the value between communicating entities for purpose of authentication).

39. Claims 52, 54, 56 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krohn in view of Balfanz.

A method where the first node belongs to the secure group if the first node contains the identifier value and proves the key value during the handshake process, wherein the adjacent node belongs to the secure group if the adjacent node contains the identifier value and proves the key value during the handshake process, and wherein the secure information is distributed only between nodes in the secure group (claim 52).

A apparatus where the node belongs to the secure group if the node contains the identifier value and proves the key value during the handshake process, wherein the adjacent node belongs to the secure group if the adjacent node contains the identifier value and proves the key value during the handshake process, and wherein the secure information is distributed only between nodes in the secure group (claim 54).

A apparatus where the first node belongs to the secure group if the first node contains the identifier value and proves the key value during the handshake process, wherein the adjacent node belongs to the secure group if the adjacent node contains the identifier value and proves the key value during the handshake

process, and wherein the secure information is distributed only between nodes in the secure group (claim 56).

A article of manufacture where the first node belongs to the secure group if the first node contains the identifier value and proves the key value during the handshake process, wherein the adjacent node belongs to the secure group if the adjacent node contains the identifier value and proves the key value during the handshake process, and wherein the secure information is distributed only between nodes in the secure group (claim 58).

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Krohn as introduced by Balfanz. Balfanz discloses:

A method where the first node belongs to the secure group if the first node contains the identifier value and proves the key value during the handshake process, wherein the adjacent node belongs to the secure group if the adjacent node contains the identifier value and proves the key value during the handshake process, and wherein the secure information is distributed only between nodes in the secure group (for the purpose of secure group affiliation communicating as a result of a shared identifier and key Balfanz provides for the securing device sends to the new member the new member certificate, the group root certificate,

and any necessary supporting information about the group such that the new member can now establish communication with other group members [col. 8, lines 50-67] (claim 52).

A apparatus where the node belongs to the secure group if the node contains the identifier value and proves the key value during the handshake process, wherein the adjacent node belongs to the secure group if the adjacent node contains the identifier value and proves the key value during the handshake process, and wherein the secure information is distributed only between nodes in the secure group (for the purpose of secure group affiliation communicating as a result of a shared identifier and key Balfanz provides for the securing device sends to the new member the new member certificate, the group root certificate, and any necessary supporting information about the group such that the new member can now establish communication with other group members [col. 8, lines 50-67] (claim 54).

A apparatus where the first node belongs to the secure group if the first node contains the identifier value and proves the key value during the handshake process, wherein the adjacent node belongs to the secure group if the adjacent node contains the identifier value and proves the key value during the handshake process, and wherein the secure information is distributed only between nodes in the secure group (for the purpose of secure group affiliation communicating as a

result of a shared identifier and key Balfanz provides for the securing device sends to the new member the new member certificate, the group root certificate, and any necessary supporting information about the group such that the new member can now establish communication with other group members [col. 8, lines 50-67] (claim 56).

A article of manufacture where the first node belongs to the secure group if the first node contains the identifier value and proves the key value during the handshake process, wherein the adjacent node belongs to the secure group if the adjacent node contains the identifier value and proves the key value during the handshake process, and wherein the secure information is distributed only between nodes in the secure group (for the purpose of secure group affiliation communicating as a result of a shared identifier and key Balfanz provides for the securing device sends to the new member the new member certificate, the group root certificate, and any necessary supporting information about the group such that the new member can now establish communication with other group members [col. 8, lines 50-67] (claim 58).

Therefore, given the teachings of Balfanz, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Krohn by employing the well known features of handshaking disclosed above by

Balfanz, for which providing group membership to neighboring devices will be enhanced [col. 8, lines 50-67].

40. Claims 11, 13, 20, 21, 35, 37, 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krohn in view Balfanz as applied to claims 1 and 25, further in view of Benantar et al. (US Patent No. 6,854,056 and Benantar hereinafter).

41. As to claims 11, 13, 20 and 21, the system disclosed by Krohn discloses substantial features of the claimed invention. However, Krohn in view Balfanz fails to disclose;

A method where the secure information comprises a password (claim 11).

A method further comprising distributing secure information to each adjacent node that is a member of the secure group, in response to an update of the secure information (claim 13).

A method further comprising: resolving an ambiguity between a received updated secure information and currently stored secure information by selecting the secure information with a larger data value (claim 20).

A method further comprising increasing a security of the secure group by widening a secure group key (SGK) value which is known by each node in the secure group (claim 21).

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Krohn in view Balfanz as introduced by Benantar. Benantar discloses:

A method where the secure information comprises a password (claim 11) (to provide password capability with X.509 certificate base authentication [col. 2, lines 9-12]).

A method further comprising distributing (e.g., generate) secure information to each adjacent node that is a member of the secure group, in response to an update of the secure information (claim 13) (to distribute the newly generated secure information [col. 8, lines 60-67]).

A method further comprising: resolving an ambiguity between a received updated secure information and currently stored secure information by selecting the secure information with a larger data value (claim 20) (to provide the capability to reconcile received information with stored information [col. 6, lines 45-50]).

A method further comprising increasing a security of the secure group by widening a secure group key (SGK) value which is known by each node in the secure group (claim 21) (to provide a secure group key thus enabling everyone to have the capability of trusted interaction [col. 4, lines 35-45]).

Therefore, given the teachings of Benantar, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Krohn in view Balfanz by employing the well known feature of a password use in X.509 certificate-base authentication as disclosed above by Benantar, for which secure communication will be enhanced [col. 2, lines 9-12].

42. As to claims 35, 37, 44 and 45, the system disclosed by Krohn in view Balfanz discloses substantial features of the claimed invention. However, Krohn in view Balfanz fails to disclose;

A apparatus where the secure information comprises a password (claim 35).

A apparatus where the node is configured to distribute the secure information to each adjacent node that is a member of the secure group, in response to an update of the secure information (claim 37).

A apparatus where the node is configured to resolve an ambiguity between a received updated secure information and currently stored secure information by selecting the secure information with a larger data value (claim 44).

A apparatus where the node is configured to increase a security of the secure group by widening the key value which is known by each node in the secure group (claim 45).

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Krohn in view Balfanz as introduced by Benantar. Benantar discloses:

A apparatus where the secure information comprises a password (claim 35) (to provide password capability with X.509 certificate base authentication [col. 2, lines 9-12]).

A apparatus where the node is configured to distribute (e.g., generate) the secure information to each adjacent node that is a member of the secure group, in response to an update of the secure information (claim 37) (to distribute the newly generated secure information [col. 8, lines 60-67]).

A apparatus where the node is configured to resolve an ambiguity between a received updated secure information and currently stored secure information by

selecting the secure information with a larger data value (claim 44) (to provide the capability to reconcile received information with stored information [col. 6, lines 45-50]).

A apparatus where the node is configured to increase a security of the secure group by widening the key value which is known by each node in the secure group (claim 45) (to provide a secure group key thus enabling everyone to have the capability of trusted interaction [col. 4, lines 35-45]).

Therefore, given the teachings of Benantar, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Krohn in view Balfanz by employing the well known feature of a password use in X.509 certificate-base authentication as disclosed above by Benantar, for which secure communication will be enhanced [col. 2, lines 9-12].

43. Claims 14, 15, 23, 24, 38, 39, 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krohn in view Balfanz , as applied to claim 1 and 25, further in view of Hafer (US Patent No. 4,530,092).

44. As to claims 14, 15, 23 and 24, the system disclosed by Krohn in view Balfanz discloses substantial features of the claimed invention.

However, Krohn in view Balfanz fails to disclose;

A method where the action of performing the handshake process comprises: performing the handshake process with the adjacent node once for every fixed time amount T (claim 14).

A method further comprising: after detecting the presence of another node that is not in an adjacency set, attempting to handshake with that another node if a detecting node and the another node both have a handshake time remaining value of zero (0) (claim 15).

A method further comprising: allowing for rapid construction of the secure group by transmitting a burst of NB handshakes for every amount of time TB, where NB is the number of handshakes and TB is a time amount between burst of handshakes (claim 23).

A method further comprising: preventing a single node in the secure group from attempting to handshake with numerous nodes to avoid excessive joins, by establish membership with one adjacent node at a time, and waiting at time TW + TR between handshake attempts, where TW is a fixed configurable time amount and TR is a random amount of time that is bounded by a user-specified bound range (claim 24).

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Krohn in view Balfanz as introduced by Hafer. Hafer discloses:

> A method where the action of performing the handshake process comprises: performing the handshake process with the adjacent node once for every fixed time (i.e., time slot) amount T (claim 14) (to provide time base handshaking capability [col. 9, lines 40-45]).
>
> A method further comprising: after detecting the presence of another node that is not in an adjacency set, attempting to handshake with that another node if a detecting node and the another node both have a handshake time remaining value of zero (0) (claim 15) (to provide time base handshaking capability [col. 9, lines 40-45]).
>
> A method further comprising: allowing for rapid construction of the secure group by transmitting a burst (e.g., broadcasting) of NB handshakes (i.e., acknowledgement) for every amount of time TB, where NB is the number of handshakes (i.e., acknowledgement) and TB is a time amount between burst (e.g., broadcasting) of handshakes (i.e., acknowledgement) (claim 23) (to provide time base handshaking capability [col. 9, lines 40-45]).

A method further comprising: preventing a single node in the secure group from attempting to handshake with numerous nodes to avoid excessive joins, by establish membership with one adjacent node at a time, and waiting at time TW + TR (i.e., common clock signal) between handshake attempts, where TW is a fixed configurable time amount and TR is a random amount of time that is bounded by a user-specified bound range (claim 24) (to provide time slot allocation capability to communicate between adjoining nodes members [col. 9, lines 40-45].

Therefore, given the teachings of Hafer, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Krohn in view Balfanz by employing the well known feature of time based acknowledgement (e.g., handshaking) and broadcasting (e.g., burst) capability disclosed above by Hafer, for which secure communication will be enhanced [col. 2, lines 9-12].

45. As to claims 38, 39, 47 and 48, the system disclosed by Krohn in view Balfanz discloses substantial features of the claimed invention.

However, Krohn in view Balfanz fails to disclose;

A apparatus where the node is configured to perform the handshake process with the adjacent node once for every fixed time amount T (claim 38).

A apparatus where the node is configured to attempt to handshake with another node if the node and the another node both have a handshake time remaining value of zero (0) (claim 39).

A apparatus where the node is configured to allow for rapid construction of the secure group by transmitting a burst of NB handshakes for every amount of time TB, where NB is the number of handshakes and TB is a time amount between burst of handshakes (claim 47).

A apparatus where the node is prevented from attempting to handshake with numerous nodes to avoid excessive joins, by establish membership with one adjacent node at a time, and waiting at time TW + TR between handshake attempts, where TW is a fixed configurable time amount and TR is a random amount of time that is bounded by a user-specified bound range (claim 48).

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Krohn in view Balfanz as introduced by Hafer. Hafer discloses:

A apparatus where the node is configured to perform the handshake process with the adjacent node once for every fixed time (i.e., time slot) amount T (claim 38) (to provide time base handshaking capability [col. 9, lines 40-45]).

A apparatus where the node is configured to attempt to handshake with another node if the node and the another node both have a handshake time remaining value of zero (0) (claim 39) (to provide time base handshaking capability [col. 9, lines 40-45]).

A apparatus where the node is configured to allow for rapid construction of the secure group by transmitting a burst (e.g., broadcasting) of NB handshakes (i.e., acknowledgement) for every amount of time TB, where NB is the number of handshakes and TB is a time amount between burst (e.g., broadcasting) of handshakes (claim 47) (to provide time base handshaking capability [col. 9, lines 40- 45]).

A apparatus where the node is prevented from attempting to handshake with numerous nodes to avoid excessive joins, by establish membership with one adjacent node at a time, and waiting at time TW + TR (i.e., common clock signal) between handshake attempts, where TW is a fixed configurable time amount and TR is a random amount of time that is bounded by a user-specified bound range

(claim 48) (to provide time slot allocation capability to communicate between adjoining nodes members [col. 5, lines 19-27]).

Therefore, given the teachings of Hafer, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Krohn in view Balfanz by employing the well known feature of time based acknowledgement (e.g., handshaking) and broadcasting (e.g., burst) capability disclosed above by Hafer, for which secure communication will be enhanced [col. 9, lines 40-45]].

46. Claims 22 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krohn in view Balfanz , as applied to claim 1 and 25, further in view of Levine et al. (US Patent Publication No. 2003/0061481 and Levine hereinafter).

47. As to claims 22 and 46, the system disclosed by Krohn in view Balfanz discloses substantial features of the claimed invention.

However, Krohn in view Balfanz fails to disclose;

A method further comprising: decreasing an amount of time between symmetric key regeneration (TK) to increase the security of the secure group (claim 22).

> A apparatus where the node is configured to decrease an amount of time between symmetric key regeneration (TK) to increase the security of the secure group (claim 46).

However, these features are well known in the art and would have been an obvious modification of the system disclosed by Krohn in view Balfanz as introduced by Levine. Levine discloses:

> A method further comprising: decreasing an amount of time between symmetric key regeneration (TK) to increase the security of the secure group (claim 22) (to increase security between nodes by allocating symmetric keys for each node for which symmetric key regeneration is decrease [par. 65, lines 1-16]).

> A apparatus where the node is configured to decrease an amount of time between symmetric key regeneration (TK) to increase the security of the secure group (claim 46) (to increase security between nodes by allocating symmetric keys for each node for which symmetric key regeneration is decrease [par. 65, lines 1-16]).

Therefore, given the teachings of Levine, a person having ordinary skill in the art at the time of the invention would have recognized the desirability and advantage of modifying Krohn in view Balfanz by employing the well known feature of symmetric key allocation

for each node disclosed above by Levine, for which symmetric key processing will be enhanced [par. 65, lines 1-16].

Response to Arguments

19. Applicant's arguments with respect to claims 1-58 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN WRIGHT whose telephone number is (571)270-3826. The examiner can normally be reached on 8:30 am - 5:30 pm Monday -Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, AYAZ Sheikh can be reached on (571)272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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